

Work Order ID 165203

Wednesday, August 16, 2017 1:24:51 PM

165203

Ship 21 Aug-

Page 1

Item ID: D044-715-011

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: R44 Cargo Mirror

Start Date: 8/16/2017 Start Qty: 3.00

Required Date: 8/23/2017 Req'd Qty: 3.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

DAS
21

Date: AUG 16 2017

Tooling:

Date:

Run Start *NR1*

QC:

9-89

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3243

Rev A

IIN-D044-715

Rev A

100

Document Control

AUG 16 2017 0.00

DAS
6
9-89

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPPD044-715-011

CHG003

AUG 17 2017

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

AUG 16 2017

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																							
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____	
Misidentified ☐	Past Due ☐																																																														

Work Order ID 165203***165203***

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Wednesday, August 16, 2017 1:24:51 PM

Item ID: D044-715-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: R44 Cargo Mirror
Start Date: 8/16/2017 Start Qty: 3.00 ***3*** Cust Item ID:
Required Date: 8/23/2017 Req'd Qty: 3.00 ***3*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120	QC4- 100% Inspect kits for completeness	0.03							
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120

QC

Quality Control

Memo

0.00

3 DAS
27
9-89
AUG 17 2017

130	Identify as per dwg & Stock Location: _____	0.00							
-----	---	------	--	--	--	--	--	--	--

130

Packaging

Packaging

Packaging

Memo

Identify and pack for shipping as per PPP D044-715-011
LOCATION: FG011

0.00

3 DAS
27
9-89

AUG 17 2017

140	QC21- Final Inspection - Work Order Release	0.10							
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140

QC

Quality Control

Memo

0.30

DAS
21
9-89

AUG 17 2017

DAS
21
9-89

AUG 17 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Misidentified ☐	Past Due ☐																																																														

Picklist Print

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Work Order ID: 165203

165203

Parent Item: D044-715-011

D044-715-011

Parent Item Name: R44 Cargo Mirror

Start Date: 8/16/2017

Required Date: 8/23/2017

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP Rev:A04.02.18New issueKJ/JLM
IPP Rev:B 06-04-28 Manufactured on Water Jet JLM
IPP Rev:C 08-06-10 as per ECN1195p DD verified by:EC IPP Rev:D
11.05.04 remove FE-032-EF DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3243-041 *D3243-041* Bracket		Manufactured	No			110	Each	4.0000	1	3.4			
									**			AUG 16 2017	
				<u>Location</u>				<u>Loc Qty</u>					
				ST486				4					
				159864				4		3.4			
D1048 *D1048* Clamp		Manufactured	No			110	Each	15.0000	2	5.8			
									**			AUG 16 2017	
				<u>Location</u>				<u>Loc Qty</u>					
				GA				15					
				148270				1					
				159855				14		6.8			
D1049 *D1049* Saddle		Manufactured	No			110	Each	7.0000	2	5.8			
									**			AUG 16 2017	
				<u>Location</u>				<u>Loc Qty</u>					
				GA				7					
				162358				7		6			
D2010-104 *D2010-104* ARM		Manufactured	No			110	Each	9.0000	1	3.2			
									**			AUG 16 2017	
				<u>Location</u>				<u>Loc Qty</u>					
				ST351				9					
				163312				9		3			

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : ☐							

Picklist Print

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Work Order ID: 165203

165203

Parent Item: D044-715-011

D044-715-011

Parent Item Name: R44 Cargo Mirror

Start Date: 8/16/2017

Required Date: 8/23/2017

Start Qty: 3.00

Required Qty: 3.00

D2011-101 Manufactured No

110 Each 44.0000 1

D2011-101

Mirror 6"

**

Location	Loc Qty	Loc Code
FG	3	
106348	1	
158473	2	
ST384	41	
158473	1	
<u>159140</u>	14	
160663	26	

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AN3-4A Purchased No

110 Each 442.0000 4

AN3-4A

Bolt

**

Location	Loc Qty	Loc Code
over003	350	
350	350	
ST350	92	
<u>m137478</u>	92	

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27
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AN526C1032R10 Purchased No

110 Each 105.0000 4

AN526C1032R10

Screw

**

Location	Loc Qty	Loc Code
FP001	13	
m135133	13	
ST327	92	
<u>m137851</u>	92	

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27
9-89

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Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

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Work Order ID: 165203

165203

Parent Item: D044-715-011

D044-715-011

Parent Item Name: R44 Cargo Mirror

Start Date: 8/16/2017

Required Date: 8/23/2017

Start Qty: 3.00

Required Qty: 3.00

ALS4-1032-130 AELS4-1032-130 Purchased

No

110

Each

5,504.000

4

AI S4-1032-130

Rivnut

**

12/12

Location

Loc Qty

Loc Code

FG

100

FG

M135442

50

M136579

50

FP001

5351

M133077

3

M136579

384

M137820

4964

st555

53

M136579

53

NAS1149D0332J

Purchased

No

110

Each

2,017.000

4

NAS1149D0332.I

Washer

**

12/12

Location

Loc Qty

Loc Code

FP

141

m137075

141

GA

200

m136643

200

ST260a

1000

m138238

1000

ST264

676

m137736

5

m137963

671

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27
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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

2. GENERAL NOTES

COMPATIBILITY

Compatibility of this installation with the aircraft is the **responsibility of the installer**. Ensure that this installation does not conflict with a previous modification.

CONTINUING AIRWORTHINESS

This installation should be maintained in accordance with the Instructions for Continued Airworthiness ICA-D044-715.

3. INSTALLATION INSTRUCTIONS

To install the Dart Cargo Mirror Installation on the R44 skidtube:

1. Locate the D3243-041 Bracket with approximately 0.38" (10mm) space between the top of the skidtube and the bracket, as shown in Figure 2. Transfer drill the 4 holes from the bracket to the centerline of skidtube and enlarge to 10/64" (Ø0.297"). Deburr holes and wet install ALS7-1032-130 inserts using MIL-P-85582 or MIL-P-23377 primer.
2. Install the D3243-041 Bracket on the skidtube using the AN3 hardware. The bolts should be sealed with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant before installing as per Figure 2.
3. Install remaining hardware per Figure 2 as required. Adjust the angle of the D2010-104 Arm and tighten the AN526C1032R10 screws to secure arm.
4. To adjust the mirror: loosen (DO NOT REMOVE) the three adjustment screws shown in Figure 2, reposition the mirror, then tighten the screws.

4. WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D044-715-011 Cargo Mirror Installation	1.3 lb 0.59 kg	41.7 in 1.06 m	54.2 lb-kG 0.63 m-kG	32.0 in 0.81 m	41.6 in-lb 0.48 m-kG

5. PARTS LIST

Qty	Part Number	Description
X	D044-715-011	CARGO MIRROR INSTALLATION
2	D1048	Clamp
2	D1049	Saddle
1	D2010-104	Arm
1	D2011-101	Mirror
1	*D3014-1	Locknut
1	D3243-041	Bracket
4	ALS7-1032-130	Insert (or AKS7-1032-130, AKS4-1032-130, ALS4-1032-130)
4	AN3-4A	Bolt
4	AN526C1032R10	Screw (or AN526-1032R10)
4	AN960JD10L	Washers
1	*AN960JD416L	Washer

* PARTS ARE INCLUDED WITH D2011-101 MIRROR

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Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: R44 Cargo Mirror

Start Date: 8/16/2017 Start Qty: 3.00

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Required Date: 8/23/2017 Req'd Qty: 3.00

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Run Start *NR1*

Approvals: Process Plan: Date: Tooling: Date:

Stop *NR2*

QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3243	Rev A
IIN-D044-715	Rev A

100 Document Control
DOCUMENT CONTROL

AUG 16 2017 0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPPD044-715-011 CHG003

DAS
5
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3

AUG 16 2017

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging